

Currently Pending Claim Set

1. (Amended) A zinc finger protein that binds to a target site, said zinc finger protein comprising a first (F1), a second (F2), and a third (F3) zinc finger, ordered F1, F2, F3 from N-terminus to C-terminus, said target site comprising, in 3' to 5' direction, a first (S1), a second (S2), and a third (S3) target subsite, each target subsite having the nucleotide sequence GNN, wherein if S1 comprises GAA, F1 comprises the amino acid sequence QRSNLVR (SEQ ID NO:158); if S2 comprises GAA, F2 comprises the amino acid sequence QSGNLAR (SEQ ID NO:801); if S3 comprises GAA, F3 comprises the amino acid sequence QSGNLAR (SEQ ID NO:801); if S1 comprises GAG, F1 comprises the amino acid sequence RSDNLAR (SEQ ID NO:130); if S2 comprises GAG, F2 comprises the amino acid sequence RSDNLAR (SEQ ID NO:130); if S3 comprises GAG, F3 comprises the amino acid sequence RSDNLTR (SEQ ID NO:231); if S1 comprises GAC, F1 comprises the amino acid sequence DRSNLTR (SEQ ID NO:395); if S2 comprises GAC, F2 comprises the amino acid sequence DRSNLTR (SEQ ID NO:395); if S3 comprises GAC, F3 comprises the amino acid sequence DRSNLTR (SEQ ID NO:395); if S1 comprises GAT, F1 comprises the amino acid sequence QSSNLAR (SEQ ID NO:1765); if S2 comprises GAT, F2 comprises the amino acid sequence TSGNLVR (SEQ ID NO:1442); if S3 comprises GAT, F3 comprises the amino acid sequence TSANLSR (SEQ ID NO:377); if S1 comprises GGA, F1 comprises the amino acid sequence QSGHLAR (SEQ ID NO:413); if S2 comprises GGA, F2 comprises the amino acid sequence QSGHLQR (SEQ ID NO:287); if S3 comprises GGA, F3 comprises the amino acid sequence QSGHLQR (SEQ ID NO:287); if S1 comprises GGG, F1 comprises the amino acid sequence RSDHLAR (SEQ ID NO:127); if S2 comprises GGG, F2 comprises the amino acid sequence RSDHLSR (SEQ ID NO:229); if S3 comprises GGG, F3 comprises the amino acid sequence RSDHLSR (SEQ ID NO:229); if S1 comprises GGC, F1 comprises the amino acid sequence DRSHLTR (SEQ ID NO:705); if S2 comprises GGC, F2 comprises the amino acid sequence DRSHLAR (SEQ ID NO:1092); if S1 comprises GGT, F1 comprises the amino acid sequence QSSHLTR (SEQ ID NO:835); if S2 comprises GGT, F2 comprises the amino acid sequence TSGHLSR (SEQ ID NO:1201); if S3 comprises GGT, F3 comprises the amino acid sequence TSGHLVR (SEQ ID NO:1425); if S1 comprises GCA, F1 comprises the amino acid sequence QSGSLTR (SEQ ID NO:342); if S2 comprises GCA, F2 comprises QSGDLTR (SEQ ID NO:220); if S3 comprises GCA, F3 comprises QSGDLTR (SEQ ID NO:220); if S1 comprises GCG, F1 comprises the amino acid sequence RSDDLTR (SEQ ID NO:188); if S2 comprises GCG, F2 comprises the amino acid sequence RSDDLQR (SEQ ID NO:1844); if S3 comprises GCG, F3 comprises the amino acid sequence RSDDLTR (SEQ ID NO:188); if S1 comprises GCC, F1 comprises the amino acid sequence ERGTLAR (SEQ ID NO:131); if S2 comprises GCC, F2 comprises the amino acid sequence DRSDLTR (SEQ ID NO:417); if S3 comprises GCC, F3 comprises the amino acid sequence DRSDLTR (SEQ ID NO:417); if S1 comprises GCT, F1 comprises the

amino acid sequence QSSDLTR (SEQ ID NO:1450); if S2 comprises GCT, F2 comprises the amino acid sequence QSSDLTR (SEQ ID NO:1450); if S3 comprises GCT, F3 comprises the amino acid sequence QSSDLQR (SEQ ID NO:132); if S1 comprises GTA, F1 comprises the amino acid sequence QSGALTR (SEQ ID NO:1398); if S2 comprises GTA, F2 comprises the amino acid sequence QSGALAR (SEQ ID NO:3339); if S1 comprises GTG, F1 comprises the amino acid sequence RSDALTR (SEQ ID NO:153); if S2 comprises GTG, F2 comprises the amino acid sequence RSDALSR (SEQ ID NO:237); if S3 comprises GTG, F3 comprises the amino acid sequence RSDALTR (SEQ ID NO:153); if S1 comprises GTC, F1 comprises the amino acid sequence DRSALAR (SEQ ID NO:184); if S2 comprises GTC, F2 comprises the amino acid sequence DRSALAR (SEQ ID NO:184); and if S3 comprises GTC, F3 comprises the amino acid sequence DRSALAR (SEQ ID NO:184).

2. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GAA and F1 comprises the amino acid sequence QRSNLVR (SEQ ID NO:158).

3. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GAA and F2 comprises the amino acid sequence QSGNLAR (SEQ ID NO:801).

4. (Amended) The zinc finger protein of claim 1, wherein S3 comprises GAA and F3 comprises the amino acid sequence QSGNLAR (SEQ ID NO:801).

5. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GAG and F1 comprises the amino acid sequence RSDNLAR (SEQ ID NO:130).

6. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GAG and F2 comprises the amino acid sequence RSDNLAR (SEQ ID NO:130).

7. (Amended) The zinc finger protein of claim 1, wherein S3 comprises GAG and F3 comprises the amino acid sequence RSDNLTR (SEQ ID NO:231).

8. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GAC and F1 comprises the amino acid sequence DRSNLTR (SEQ ID NO:395).

9. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GAC and F2 comprises the amino acid sequence DRSNLTR (SEQ ID NO:395).

10. (Amended) The zinc finger protein of claim 1, wherein S3 comprises GAC and F3 comprises the amino acid sequence DRSNLTR (SEQ ID NO:395).

11. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GAT and F1 comprises the amino acid sequence QSSNLAR (SEQ ID NO:1765).

12. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GAT and F2 comprises the amino acid sequence TSGNLVR (SEQ ID NO:1442).

13. (Amended) The zinc finger protein of claim 1, wherein S3 comprises GAT and F3 comprises the amino acid sequence TSANLSR (SEQ ID NO:377).

14. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GGA and F1 comprises the amino acid sequence QSGHLAR (SEQ ID NO:413).

15. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GGA and F2 comprises the amino acid sequence QSGHLQR (SEQ ID NO:287).

16. (Amended) The zinc finger protein of claim 1, wherein S3 comprises GGA and F3 comprises the amino acid sequence QSGHLQR (SEQ ID NO:287).

17. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GGG and F1 comprises the amino acid sequence RSDHLAR (SEQ ID NO:127).

18. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GGG and F2 comprises the amino acid sequence RSDHLSR (SEQ ID NO:229).

19. (Amended) The zinc finger protein of claim 1, wherein S3 comprises GGG and F3 comprises the amino acid sequence RSDHLSR (SEQ ID NO:229).

20. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GGC and F1 comprises the amino acid sequence DRSHLTR (SEQ ID NO:705).

21. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GGC and F2 comprises the amino acid sequence DRSHLAR (SEQ ID NO:1092).

22. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GGT and F1 comprises the amino acid sequence QSSHLTR (SEQ ID NO:835).

23. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GGT and F2 comprises the amino acid sequence TSGHLR (SEQ ID NO:1201).

24. (Amended) The zinc finger protein of claim 1, wherein S3 comprises GGT and F3 comprises the amino acid sequence TSGHLVR (SEQ ID NO:1425).

25. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GCA and F1 comprises the amino acid sequence QSGSLTR (SEQ ID NO:342).

26. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GCA and F2 comprises the amino acid sequence QSGDLTR (SEQ ID NO:220).

27. (Amended) The zinc finger protein of claim 1, wherein S3 comprises GCA and F3 comprises the amino acid sequence QSGDLTR (SEQ ID NO:220).

28. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GCG and F1 comprises the amino acid sequence RSDDLTR (SEQ ID NO:188).

29. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GCG and F2 comprises the amino acid sequence RSDDLQR (SEQ ID NO:1844).

30. (Amended) The zinc finger protein of claim 1, wherein S3 comprises GCG and F3 comprises the amino acid sequence RSDDLTR (SEQ ID NO:188).

31. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GCC and F1 comprises the amino acid sequence ERGTLAR (SEQ ID NO:131).

32. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GCC and F2 comprises the amino acid sequence DRSDLTR (SEQ ID NO:417).

33. (Amended) The zinc finger protein of claim 1, wherein S3 comprises GCC and F3 comprises the amino acid sequence DRSDLTR (SEQ ID NO:417).

34. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GCT and F1 comprises the amino acid sequence QSSDLTR (SEQ ID NO:1450).

35. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GCT and F2 comprises the amino acid sequence QSSDLTR (SEQ ID NO:1450).

36. (Amended) The zinc finger protein of claim 1, wherein S3 comprises GCT and F3 comprises the amino acid sequence QSSDLQR (SEQ ID NO:132).

37. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GTA and F1 comprises the amino acid sequence QSGALTR (SEQ ID NO:1398).

38. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GTA and F2 comprises the amino acid sequence QSGALAR (SEQ ID NO:3339).

39. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GTG and F1 comprises the amino acid sequence RSDALTR (SEQ ID NO:153).

40. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GTG and F2 comprises the amino acid sequence RSDALSR (SEQ ID NO:237).

41. (Amended) The zinc finger protein of claim 1, wherein S3 comprises GTG and F3 comprises the amino acid sequence RSDALTR (SEQ ID NO:153).

42. (Amended) The zinc finger protein of claim 1, wherein S1 comprises GTC and F1 comprises the amino acid sequence DRSALAR (SEQ ID NO:184).

43. (Amended) The zinc finger protein of claim 1, wherein S2 comprises GTC and F2 comprises the amino acid sequence DRSALAR (SEQ ID NO:184).

44. (Amended) The zinc finger protein of claim 1, wherein S3 comprises GTC and F3 comprises the amino acid sequence DRSALAR (SEQ ID NO:184).

45. A polypeptide comprising a zinc finger protein according to claim 1.

46. A polypeptide according to claim 45, further comprising at least one functional domain.

47. A polynucleotide encoding a zinc finger protein according to claim 1.

48. A polynucleotide encoding a polypeptide according to claim 45.

49. A polynucleotide encoding a polypeptide according to claim 46.